

## **REMARKS**

This Preliminary Amendment is submitted in connection with a Continued Processing Application and is responsive to the Office Action of May 14, 1999. Applicant respectfully requests reconsideration of pending Claims 1, 2, 5, 7, 8, 15-17, 20, and 39-46 and allowance of new Claims 47-55 based on the above amendments and these remarks.

### **Procedural History and Applied Art**

This application was filed on August 19, 1997 with Claims 1-38. The Applicants subsequently elected to proceed with Claims 1, 2, 5, 7, 8, 15-17 and 20 in response to a restriction requirement. The first Office Action (paper No. 2) rejected the elected Claims 1, 2, 5, 7, 8, 15-17 and 20 as obvious over Applicants' own International Application WO 96/23041, filed on January 19, 1996 and published on August 1, 1996.

On March 16, 1999, Applicants responded to the Office Action by making a priority claim to co-pending patent application no 08/566906 that was filed on December 4, 1995. In order to make this priority claim, Applicants amended Claim 1 so that it was broad enough to read on 08/566906, but still supported by the original specification of this application.

The Office Action that followed on May 14, 1999, however, rejects Applicants' attempt at a valid priority claim to the 08/566906 and maintains the Section 103 rejection over WO 96/23041 by contending that:

- this specification does not adequately enable the more broadly claimed invention (paragraph 3),
- this specification does not reasonably convey that Applicant possessed the invention of Claim 1 at the time the application was filed (paragraph 4), and
- this application is not entitled to the 1995 filing date of 08/566,906 because this application includes a colorant and because this application recites a composition with percentage ingredients of liquid carrier, colorant, binder, and thermoplastic powder that are different from the percentage ingredients disclosed in 08/566,906 (paragraph 6)

Applicants have filed a CPA with these remarks in order to show that the specification does support the invention of amended Claim 1 and that the application is entitled to the filing date of 08/566,906.

### **The Applied Art and the Priority Document**

#### **WO 96/23041**

WO 96/23041 discloses several related methods where a composition is applied directly to the surface of a plastic object or indirectly to the surface by first being applied to the interior surface of a mold that forms the plastic object.

Figures 1 to 4 show several embodiments where the composition is indirectly applied to the surface of the article by first being applied to the interior surface of a mold:

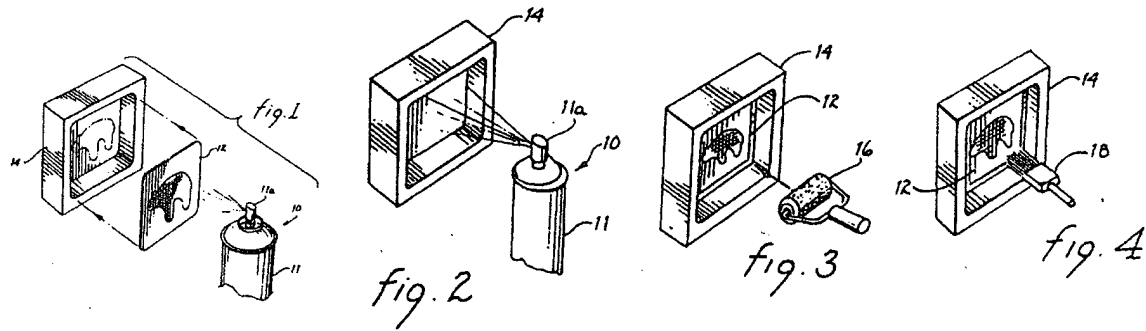


Figure 6 shows an embodiment where the composition is also indirectly applied to the surface of the article by first being applied to an intermediate decal that is then applied to the interior surface of the mold:

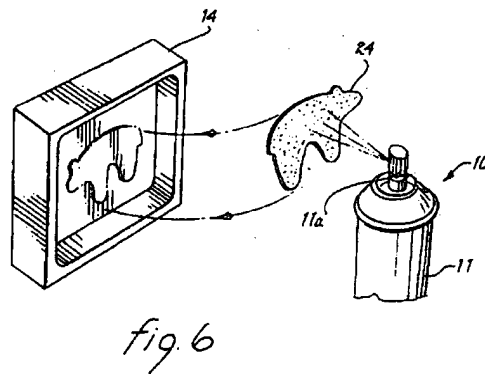
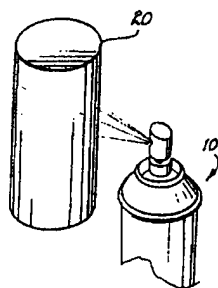


Figure 5 shows an embodiment where the composition is directly applied to the exterior surface of the plastic object:



*fig. 5*

**Application 08/566,906**

Applicants have made a priority claim to application 08/566,906. It does not contain any drawings, as shown by corresponding Patent No. 5,746,961. A comparison of its title with the title of this application, however, is highly illustrative of its relevance as a valid priority document:

08/566,906:

METHOD FOR ENHANCEMENT OF THE SURFACE OF  
MOLDED PLASTIC PRODUCTS.

This Application

METHOD AND COMPOSITION TO ENHANCE  
POLYOLEFIN SURFACES

**The Present Invention**

As suggested by its title, just reproduced, this invention is directed to a unique method of "enhancing" the surface of a polyethylene article. As illustrated by the frog in Figures 7 and 8 reproduced below, the claimed method broadly involves two steps:

1. incorporating a “decorative enhancement composition” (DE Composition) onto the surface; and
2. heating the DE Composition and the surface to permanently fuse one to the other.



FIGURE 7

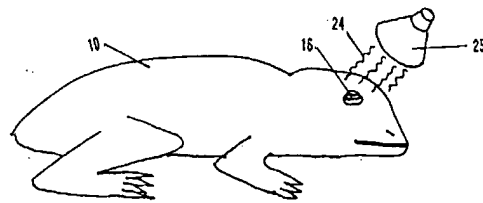


FIGURE 8

The claimed invention further comprises a particular DE Composition having four main ingredients:

- liquid carrier – so that the composition may be suitably applied;
- colorant – to impart a desired color;
- binder – to make the composition stick prior to heating; and
- thermoplastic powder – to fuse the composition into the surface.

### **Detailed Response to the Office Action**

#### **1. Section 112, Second Paragraph**

The Office Action of 9/16/98 rejected Claims 1, 2, 5, 7, 8, 15-17, 20, and 39-46 under 35 U.S.C. Section 112, second paragraph, for a variety of reasons. Applicants previously attempted to address each of the Examiner's concerns in the amendment of March 22, 1999, and thank the Examiner for formally withdrawing this rejection in Paragraph 1 of the most recent Action.

## **2. The Abstract**

The Office Action continues to reject the pending Claims under 35 U.S.C. 112, first paragraph, because the meaning of the last two lines of the abstract is still not clear. In the Amendment of 3/22/99, Applicants directed changes to page 17, line 28, which line contains two occurrences of the phrase "liquid carrier" and created an ambiguity as to which should be changed. The changes, however, were actually intended for line 29 that contains a single occurrence. Applicants have explicitly requested this amendment above and Applicants' attorney apologizes for the error.

## **3. The Specification Enables The Claimed Invention**

At paragraphs 3 and 4, the Office Action contends that the specification does not reasonably enable the more broadly stated method of amended Claim 1 and that the original specification does not reasonably convey that Applicants had possession of the claimed invention at the time the application was filed. Applicants respectfully traverse.

Both the originally filed and the amended Claim 1 require the four ingredients of liquid carrier, colorant, binder and thermoplastic powder. The original Claim 1 specifies these four ingredients in relative percentages whereas the amended Claim 1 specifies these four ingredients in amounts "sufficient to provide" a desired characteristic.

Amended Claim 1 does not include the originally-stated limitations because the relative weight percentages are unnecessarily limiting and because

the original specification enables one of ordinary skill in the art to easily understand the underlying purpose of each ingredient and recognize that there is a great deal of latitude with regard to the percentage amount of each ingredient.

One should not lose sight of the fact that patent applicants are not only required to provide an enabling disclosure, but also to describe in detail the preferred embodiment. The Applicants disclosed the weight percentages in connection with their duty to disclose the preferred embodiment. There is nothing critical about these weight percentages when it comes to patentability and the Patent Office should not require that those weight percentages form a part of the broadest claim unless the novelty of the claimed invention hinges on those specific percentages. Applicants respectfully submit that it does not. The novelty of the decorative enhancement method that is described in the original specification and now claimed lies in incorporating a composition made up of the four ingredients onto the surface and then heating the composition and the surface to fuse them together. The percentages are not critical and have, accordingly, been "demoted" to dependent status (Claims 42-46).

In short, Applicants respectfully submit that the specification provides full enablement for both the original and the amended versions of Claim 1.

### **3(a) The "Liquid Carrier"**

A comparison between original Claim 1 and the amended Claim 1 with regard to the "liquid carrier" is illustrative:

<u>Original Claim 1</u>	<u>Amended Claim 1</u>
20 to 90 weight percent liquid carrier	a liquid carrier in an amount sufficient to provide the decorative enhancement composition with a consistency and viscosity necessary for application by liquid methods of application

The amended version specifies the amount of liquid carrier<sup>1</sup> in different terms, but the “liquid carrier” of amended Claim 1 is clearly supported and enabled by the original specification. The original specification, in fact, discusses the flow modifying purpose of the liquid carrier at numerous locations, as follows, such that the specification clearly enables one of ordinary skill to understand what is meant by an amount sufficient to provide the composition with a consistency and viscosity necessary for application by liquid methods of application:

The mixture of thermoplastic, colorant and binder is dispersed in a liquid carrier and blended to a uniform consistency suitable for application by spraying, dipping, brushing etc. (2:24-26)

The liquid carrier facilitates the application of the composition to the article surface by conventional methods such as spraying, rolling, brushing, dipping, etc. (4:15-19)

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<sup>1</sup> Applicants also respectfully submit that their method of incorporating and then heating a composition of liquid carrier, colorant, binder, and thermoplastic resin is unique and non-obvious in and unto itself, without regard to the relative amounts of these ingredients. As such, Applicants have added new Claims 47-55 that recite the claimed invention in this even broader fashion.



A liquid carrier is included in the enhancement composition to provide the desirable and necessary consistency and viscosity for application of the composition to the surface of the article. (5:31-34)

The amount of liquid carrier in the enhancement composition will be determined to some extent by the application method. For application by spray, the liquid carrier should be adjusted to comprise from 60 to 90 percent of the decorative enhancement composition. Other application techniques such as rolling, brushing, sponging, or dipping require as little as 20 weight percent liquid carrier in the decorative enhancement composition (6:29-26).

### **3(b) The "Binder"**

The "binder" of amended Claim 1 is recited as:

a binder in an amount sufficient to provide adhesion of the decorative enhancement composition to said polyethylene surface.

This element is also clearly supported and enabled by the originally filed specification. The description of a preferred composition with a binder provided in particular weight percentages is not a required part of the claimed invention. In particular, the applications clearly disclose that the purpose of the binder is to provide adhesion:

The method is facilitated by incorporating a binder in the decorative enhancement composition which temporarily binds the colorant and thermoplastic to the surface of the polyolefin (2:21-24)

The adhesive binder promotes adhesion of the colorant and thermoplastic to the polyolefin surface until the decorative enhancement composition can be incorporated into the polyolefin surface of the preformed article. (4:11-15)

The adhesive binder solid promotes adhesion of the overcoat composition to the polyethylene surface and previously deposited coating of decorative enhancement compositions until the coatings can be incorporated (fused) into the polyolefin surface of the article. (8:26-30).

### **3(c) The "Particulate Thermoplastic Powder"**

The "thermoplastic powder" of amended Claim 1 is recited as:

a particulate thermoplastic powder in an amount sufficient to fuse into and form a permanent bond with the molded polyethylene article.

The description of a preferred composition with a thermoplastic powder provided, like the binder, in particular weight percentages is not a required part of the claimed invention. In particular, the applications clearly disclose that the purpose of the thermoplastic powder is to provide fusion:

Preferably the thermoplastic powder is at least 50 weight percent polyethylene. (4:23-24).

The adhesive binder ... is included in the enhancement composition at a concentration to provide a ratio of ... from 70 to 30 weight percent particulate thermoplastic powder (dry weight basis). (4:28-33).

Once heated, the ... decorative enhancement compositions become incorporated into the surface of the polyolefin, presumably by fusion at the interface of the coatings and the polyolefin surface... forming a permanent bond between the coatings and the polyolefin surface. (9:29-35).

... the colored thermoplastic [is adhered] to the polyethylene surface until it can be bonded [i.e. fused]... (17: 6-8).

### **4. This Application Is Entitled to Priority from 08/566906**

Applicants recognize that this case largely hinges on the validity of Applicants' priority claim to 08/566906. Applicants respectfully submit that they are fully entitled to the filing date of 08/566906 and that, as such, they have effectively eliminated WO 96/23041 as a valid prior art reference. At paragraph

6, however, the Office Action maintains the obviousness rejection over WO 96/23041 by contending that:

the present application is not entitled to the filing date of 08/566906 because the present application recites the feature of a colorant and also a coating composition (20-90 percent liquid carrier, 9-50% colorant + 50-91% of binder and particulate thermoplastic powder) that is different from that of 08/566906.

Applicants will address these twin objections in order:

**4(a) 08/566906 Discloses a Colorant**

The Office Action asserts that "the present application is not entitled to the filing date of 08/566906 because the present application recites the feature of a colorant," but 08/566906 does not. However, 08/566906 explicitly discloses an enhancement composition that includes a colorant. In particular, the U.S. Patent that issued from 08/566906 states that:

Various colorants can also be used as the enhancement solid, thereby providing a desired surface appearance. Colorants which are useful include ... (emphasis added)

U.S. Patent No. 5,746,961 (4:43-65)

Applicants respectfully submit, therefore, that their priority claim 08/566906 is fully supported (as discussed further below), even as to a colorant.

**4(b) Amended Claim 1 is Fully Supported by 08/566906**

Applicants intentionally moved the percentage weight requirements "downward," into dependent Claims 42-46, in order to broaden Claim 1 so that

they could assert a valid priority claim to 08/566906. The fact that the preferred embodiment of the composition in 08/566906 has different relative weight percentages than the preferred embodiment of the composition in this application is not relevant because the weight percentages are no longer a part of allowable Claim 1.

08/566906 clearly support amended Claim 1 as shown by the following element-by-element table:

<u>Amended Claim 1</u>	<u>08/566906 - as reflected in U.S. Patent 5,746,961</u>
A method for permanent decorative enhancement of a polyethylene surface of a molded polyethylene article which comprises	"The invention provides for ... modification of the surfaces of molded plastic products... e.g. a product molded of ... <u>polyethylene</u> ..." Abstract, lines 13-18 (emphasis added)
(a) incorporating a decorative enhancement composition onto said polyethylene surface wherein said decorative enhancement composition consists essentially of:	The enhancement composition is <u>applied to the interior surfaces of the mold cavity</u> ... and ultimately, therefore, is incorporated onto said polyethylene surface (as is the case with the Figure 1-4 embodiments of WO 96/23041). 2:15-19.
(1) a liquid carrier in an amount sufficient to provide the decorative enhancement composition with a consistency and viscosity necessary for application by liquid methods of application; and	The enhancement composition comprises a liquid carrier ... 2:21-22.  ...one method ... is to spray the enhancement composition ... 3:7-9.  The enhancement composition useful in the invention comprises a liquid suspension of selected enhancement solids dispersed in a suitable liquid carrier. 3: 21-23.
(2) a mixture consisting essentially of:	"... the balance of the enhancement composition comprises particulate solids of a mixture of an enhancement solid and a binder solid." 3: 26-29 (emphasis added).

(A) a colorant in an amount sufficient to impart a desired surface appearance; and	"Various colorants can also be used as the enhancement solid, thereby providing a desired surface appearance ... " 4:42-43.
(B a mixture consisting essentially of:	
(i) a binder in an amount sufficient to provide adhesion of the decorative enhancement composition to said polyethylene surface; and	<p>Various binder solids can be used including rosins, aromatic and alopahatic hydrocarbin resins and waxes, including synthetic hydrocarbon waxes and oxidized synthetic waxes and terpene based resins. 3: 30-34.</p> <p>... a binder solid selected from the group consisting of: rosins, aromatic and aliphthatic hydrocarbon resins and waxes, and terpene based resins Claim 1</p>
(ii) a particulate thermoplastic powder in an amount sufficient to fuse into and form a permanent bond with the molded polyethylene article; and	<p>The enhancement solid .. can be any thermoplastic ... 3: 52-53.</p> <p>It is believed that the enhancement solid forms an outer surface or skin on the molded product substantially entirely of the enhancement solid and that the enhancement solid also mixes with the molding resin during the molding step so that at increasing depth into the wall of the molding product. 7: 4-9</p>
(b) heating said decorative enhancement composition and said polyethylene surface to an elevated temperature and for a time sufficient to fuse said decorative enhancement composition to said polyethelene surface to form a permanent decoratively enhanced surface of the molded polyethylene article.	<p>The enhancement composition is applied to the interior surfaces of the mold cavity...(Abstract: 2-3)</p> <p>The composition and polyethylene surface are heated together in a mold. See e.g. Claim 1, preamble)</p>

## **5. The New Claims**

Applicants have added new Claims 47-55 in order to more fully and fairly recite what they believe is the allowable the scope of their invention. New independent Claim 47 is similar to amended Claim 1, except that it claims a method of decoratively enhancing a polyethylene surface by incorporating a composition onto the surface and then heating both wherein the composition is defined in terms of its four ingredients (liquid carrier, colorant, binder, and thermoplastic powder). The dependent Claims include limitation similar to those which depend from Claim 1.

As new Claims 47-55 are broader yet, Applicants respectfully submit that these new claims find clear support in both this application and in 08/566906 for all of the reasons set forth above. As such, Applicants respectfully submit that Claims 47-55 are likewise in condition for allowance.

## 6. Summary

Applicants earnestly solicit a Notice of Allowance with respect to pending Claims 1, 2, 5, 7, 8, 15-17, 20, 39-46 and 47-55. The Examiner is invited to call the undersigned attorney if it appears that a telephone conference would further this case in any way.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231 on

November 15, 1999

by Eric Hoover

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Signature

November 15, 1999

Respectfully submitted,



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